

Massachusetts Department of Public Health  
Massachusetts Immunization Program

***MODEL STANDING ORDERS***

**Emergency Treatment**

**Note:** These model standing orders are current as of September 2005. They should be reviewed carefully against the most current recommendations and may be revised by the clinician signing them.

Because of possible hypersensitivity to vaccine components, persons administering biologic products or serum should be prepared to recognize and treat allergic reactions, including anaphylaxis. The necessary medications, equipment, and staff competent to maintain the patency of the airway and to manage cardiovascular collapse must be immediately available. Vaccine providers must be in close proximity to a telephone so that emergency medical personnel can be summoned immediately, if necessary. Whenever possible, patients should be observed for an allergic reaction for 15 to 20 minutes after receiving immunization(s).

**I. Treatment for Syncope:**

Syncope may occur after vaccination, particularly in adolescents and young adults. Personnel should be aware of presyncopal manifestations and take appropriate measures to prevent injuries if weakness, dizziness, or loss of consciousness occur. The relatively rapid onset of syncope in most cases suggests that having vaccinees sit or lie down for 15 minutes after immunization could avert many syncopal episodes and secondary injuries.

1. If patient becomes pale and/or feels faint,
  - a. Have patient lie flat or sit, if possible with legs elevated, for several minutes.
  - b. Observe patient until asymptomatic.
  - c. Notify attending clinician of incident.
  - d. When patient is sent home, make sure he/she has a telephone number of a provider or emergency facility to contact in case of emergency or deterioration of condition.
2. If patient loses consciousness, but has a steady pulse, normal blood pressure and respirations
  - a. Place patient flat on back with feet elevated.

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- b. Have patient rest in a quiet area and observe for 30 minutes after regaining consciousness.
  - c. Notify attending clinician of incident.
  - d. Continue to monitor vital signs.
  - e. If patient regains consciousness within 3 minutes, observe for at least 30 minutes. If indicated, notify patient's primary care provider. If patient is sent home, make sure he/she has a telephone number of a provider or emergency facility to contact in case of emergency or deterioration of condition. Contact patient 4-6 hours later to assess recovery.
  - f. **CALL AN AMBULANCE** if patient remains unconscious for more than 3 minutes
3. If vital signs are abnormal, (e.g., decreased BP, decreased/increased/irregular pulse.)
- a. Place patient flat on back with feet elevated.
  - b. If indicated and you have a clinician's order, administer IV fluids (if available).
  - c. Notify attending clinician of incident (if you have not already done so).
  - d. Continue to monitor vital signs:
    - (i) If normal, observe for at least 30 minutes. If patient is sent home, make sure he/she has a telephone number of a provider or emergency facility to contact in case of emergency or deterioration of condition. Contact patient 4-6 hours later to assess recovery.
    - (ii) If abnormal, **CALL AN AMBULANCE**.

## II. Treatment of a local reaction:

Symptoms of local reaction may include mild pain, redness, pruritis or swelling at the injection site.

- a. Apply ice to site.
- b. If indicated, administer P.O. acetaminophen or ibuprofen.
  - Acetaminophen  
Child (< 12 years) dose: 15 mg/kg/dose P.O. every 4-6 hours as needed  
Adult (≥ 12 years) dose: 650mg P.O. every 4-6 hours as needed
  - Ibuprofen  
Child (< 12 years) dose: 5-10 mg/kg/dose P.O. every 6-8 hours as needed  
Adult (≥ 12 years) dose: 400 mg P.O. every 6-8 hours as needed
- c. If indicated, administer P.O. diphenhydramine or hydroxyzine (see *Medication Table*)

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below).

- d. Notify attending clinician of incident.
- e. If patient has local reaction and symptoms subside, observe for at least 30 minutes. If indicated, notify patient's primary care provider. If patient is sent home, make sure he/she has a telephone number of a provider or emergency facility to contact in case of emergency or deterioration of condition. Contact patient 4-6 hours later to assess recovery.

### III. Treatment for mild symptoms of anaphylaxis:

Symptoms of mild systemic anaphylaxis may include pruritus, erythema, urticaria, and angioedema.

- a. 1) Administer oral diphenhydramine (see *Medication Table* below).  
2) Administer intramuscular epinephrine, repeated every 10-20 minutes, up to a maximum number of 3 times (see *Medication Table* below).  
3) If the patient's condition improves with this management and remains stable, a clinician may also recommend that the patient take additional doses of an oral antihistamine (see *Medication Table* below) for the next 24 hours.
- b. Notify attending clinician of incident.
- c. If symptoms subside, observe for at least 30 minutes. Notify the patient's primary care provider. If patient is sent home, make sure patient has telephone number of a provider or emergency facility to contact in case of an emergency or deterioration of condition. Contact patient 4-6 hours later to assess recovery.
- d. If symptoms do not subside after appropriate administration of medications, **CALL AN AMBULANCE.**

### IV. Treatment for more severe or potentially life-threatening systemic anaphylaxis:

Symptoms of more severe or potentially life-threatening systemic anaphylaxis may include severe bronchospasm, laryngeal edema, shock, and cardiovascular collapse.

- a. **CALL AN AMBULANCE**
- b. Maintenance of the airway and oxygen administration should be instituted immediately
- c. If patient is wheezing, has generalized hives or respiratory distress, have patient sit.
- d. If patient has low blood pressure or pulse is weak, have patient lie down on back and

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- elevate feet
- e. If cardiac and/or respiratory arrest occur, start CPR.
- f. Follow medication orders listed below for treatment (see *Medication Table* below).
- g. Notify attending clinician of incident.
- h. For more advanced management of severe reactions, see the *2003 Red Book*, p. 63-66.

<b>Medication Table</b> <b>For Anaphylactic Reactions</b>	
<b>1.</b> Administer epinephrine <sup>1</sup> 1:1,000 (aqueous): 0.01 mL/kg per dose, (0.5 ml, maximum) intramuscular injection, repeat every 10-20 minutes until symptoms subside, up to a maximum number of 3 times. Doses by age group are outlined below:	
a. Infants:    ≤ 1 year	0.05 ml - 0.1 ml
b. Children:   1 - 12 years	0.1 ml - 0.3 ml
c. Adults:      12 years and older	0.2 ml - 0.5 ml (0.5 ml, maximum)
<b>2.</b> Administer diphenhydramine Dose for all age groups: Oral, IM: 1-2 mg/kg every 4-6 h (100 mg, maximum single dose) <b>OR</b> Administer hydroxyzine Dose for all age groups: Oral, IM: 0.5-1 mg/kg every 4-6 h (100 mg, maximum single dose)	

<sup>1</sup> If agent causing anaphylactic reaction was given by injection, epinephrine can be injected into the same site to slow absorption.

### **List of emergency equipment and supplies:**

The following equipment and supplies should be readily available at every site at which immunization are administered:

1. Sphygmomanometer and stethoscope
2. Emergency medications:
  - a. Epinephrine 1:1000 (aqueous) for injection
  - b. Diphenhydramine hydrochloride (Benadryl) - PO and injectable.
3. Syringes:
  - a. 1 cc syringes with 1 – 1½ needles (for epinephrine administration)

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- b. 1 and 2 cc syringes, with 1 – 1½ inch needles (for Benadryl administration)
- 4. Oral airways (small, medium and large)
- 5. Alcohol wipes and bandaids
- 6. Paper and pen

#### **Documentation of all adverse events**

- a. Document administration of all emergency medications according to established protocol, vital signs, and other relevant clinical information in patient's medical record.
- b. Document all adverse event(s) in the patient's medical record,
- c. Notify the patient's primary care provider or local board of health (if no such provider can be identified) of the adverse event(s),
- d. Report adverse event(s) to the Vaccine Adverse Event Reporting System (VAERS) at 800-822-7967, or via the VAERS website: [www.vaers.org](http://www.vaers.org).

#### **References**

American Academy of Pediatrics. Passive Immunization. Pickering LK, ed. *Red Book. 2003 Report of the Committee on Infectious Diseases*. 26<sup>th</sup> Ed. Elk Grove, IL:American Academy of Pediatrics;2003: 53-66.

CDC. General recommendations on immunization: recommendations of the Advisory Committee on Immunization Practices (ACIP) and the American Academy of Family Physicians (AAFP). *MMWR* 2002; 51 (No. RR-2):1-35.

CDC. Use of standing orders programs to increase adult vaccination rates: recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR* 2000;49(No. RR-1):21-27.

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